YAKUBYAN, Sumbat Stepanovich

[Statistics of lumbering and woodworking enterprises] Statistika lesozagotovitel'nykh i derevoobrabatyvaiushchikh predpriiatii. Moskva, Lesnaia promyshlennost', 1964. 261 p. (MIRA 18:4)

YAKUBYUK, A.,inzh.-lesovod

Vitamin-rich meal gorund from pine needles. Nauka i pered.op.v sel'khoz. 9 no.12:23 D '59. (MIRA 13:4)
(Feeds) (Pine)

YAKUBYUK, Aleksey Nikolayevich

[Gradual cuttings; practices in making them at the "Prokudin Bor" Forest Tract]Postepennye rubki; opyt ikh provedeniia v lesnoi dache "Prokudin bor." Izd.2., dop. i ispr. Moskva, Goslesbumizdat, 1962. 43 p. (MIRA 16:1)
(Forest thinning)

VERESIN, Mikhail Mikhaylovich; MAMYRIN, Mikhail Alekseyevich; SHEMYAKIN, Ivan Yakovlevich; YAKUBYUK, Aleksey Nikolayevich; LITVINOV, I.V., red.; KARLOVA, G.L., tekhn. red.

[Centennial afforestation practices in the Savala Forest Tract] Stoletnii opyt lesorazvedeniia v saval'skom lesnichestve. [By] M.M.Veresin i dr. Moskva, Goslesbumizdat, 1963. 159 p. (MIRA 17:4)

YAKUDIN, RASHID ZAKIROVICH

Flotator obogatitel'noy fabriki (Flotation medium of a concentr tion plant) Moskva, Metallurgizdat, 1955.

247 p. illus., diagrs., tables.

SOLOV'YEV, B.F.; KINSH, A.S.; YAKUKHINA, A.F.; BLOKHINA, V.V., red.; PECHENKIN, I.V., tekhn.red.

[Seed corn; a handbook] Semenovodstvo kukuruzy; spravochnik. Moskva, Izd-vo M-va sel'khoz.SSSR, 1960. 226 p. (MIRA 13:6)

1. Russia (1923- U.S.S.R.) Ministerstvo sel'skogo khozyaystva. Glavnaya inspektsiya po zemledeliyu.
(Corn (Maize))

ZAKHARCHENKO, A.L.; DEMCHENKO, P.V.; YAKUKHINA, A.F.; SOLOV'YEV, B.F.; KINSH, A.S.; MINENKOVA, V.R., red.; PEVZNER, V.P., tekhn. red.; TRUKHINA, O.N., tekhn. red.

[Reference book on corn]Spravochnik po kukuruze. Moskva, Sel'khozizdat, 1962. 519 p. (MIRA 16:4)
(Corn (Maize))

YAKULOVA, Ye.N.

Section of the History of Medicine and Pharmacology. Vop.ist. est. i tekh. no.11:189-190 '61. (MIRA 14:11)
(Medicine) (Pharmacology)

POLONSKIY, M.S.; ZHURAVIN, M.A.; LADYZHENSKIY, Ye.B.; PINSKER, B.I.; ZUBOV, V.O.; SHESTERIKOV, A.A.; YAKUN', F.V.; KRYNITSA, M.N.; AREF'YEV, B.A.; YEVTIKOV, L.I., starshiy stroitel' sudov; PAVLENKO, I.F.; YEKOVLEV, B.M., inzh.; MARKOV, A.P., inzh.

Readers' response to the article by engineer M.A. Daikhes entitled "Method of mounting the main engines with minor deformations of the foundation frame and the cranshaft". Sudostroenie 30 no.10:57-66 O '64.

(MIRA 17:12)

1. Gruppovoy inzh.-mekhanik SSKh parokhodstva "Kaspar" (for Zubov). 2. Inzh.-inspektor Registra SSSR (for Yakun'). 3. Glavnyy inzh.-inspektor inspektsii Registra SSSR Baltiyskogo basseyna (for Aref'yev). 4. Starshiy mekhanik teplokhoda "Tadzhikistan" (for Pavlenko).

30623
SOV/81-59-5-15977

5.2400(A)
Translation from: Referativnyy zhurnal, Khimiya, 1959, Nr 5, p 327 (USSR)

AUTHORS: Mikulinskiy, A.S., Yakunchikov, V.N., Val'shchikov, V.I., Yafremkin, V.V.

TITLE: The Refining of Amorphous Boron by Oxidation Burning in a "Fluidized Bed"

PERIODICAL: Tr. Ural'skogo n.-i. khim. in-ta, 1957 (1958), Nr 5, pp 206-210

ABSTRACT: The possibility is investigated of refining amorphous boron (AB) by means of oxidation burning in a fluidized bed (FB). Weighed portions (4 - 36 g) of AB, containing 85% of total B and 11% Mg, were placed in a chamotte crucible and air was blown in through the bottom of the crucible with a rate of 20 - 35 l/min, at a temperature of 20 to 400°C, and a burning time of 30 - 95 minutes. When the reaction zone (RZ) of the furnace was heated up due to the hot air, a thermal gradient of 120 - 140°C was observed over the porous bottom and in the mass of the product, which brings

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B-523

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The Refining of Amorphous Boron by Oxidation Burning in a "Fluidized Bed"

about the ignition of the product. By installing a separate heater of the RZ, the self-ignition was eliminated. At a temperature of 540 - 560°C of the FB, the obtained product contained 94 - 95% of total B and 2.7 - 3.3% Mg.

V. Shatskiy

Card 2/2

YAKUNENKOV, I.I.; ROMANOV, M.V.

Work under new conditions. Veterinariia 39 no.1:10-12 Ja '63. (MIRA 16:6)

1. Zamestitel' nachal'nika Uvarovskogo proizvodstvennogo upravleniya Tambovskoy oblasti (for Yakunenkov). 2. Glavnyy veterinarnyy vrach Uvarovskogo proizvodstvennogo upravleniya Tambovskoy oblasti (for Romanov).

(Uvarovo region—Veterinary medicine)

YAKUNER, S. A.; VINOKUROV, I. N.

Lanolin-oil penicillin suspension. Vest. vener., Moskva no.4: 44 July-Aug 51. (CLML 21:1)

1. Senior Scientific Associate; Yakuner; Departmental Physician Vinokurov. 2. Of the Syphilological Department (Head -- Prof. I. D. Perkel'), Odessa Skin-Venereological Institute imeni Ye. S. Glavche (Director -- B. I. Shpolyanskiy).

YAKUNER, S.A., dotsent.

Side effects in penicillin therapy. Vrach. delo no.3:255-257 Mr '57 (MLRA 10:5)

1. Kozhno-venerologicheskoye otdeleniye (zav. dots. S. A. Yakuner) Vtoroy odesskoy polikliniki.
(PENICILLIN)

YAKUNER, S.A., dotsent

Side effects of antibiotic therapy. Vrach.delo no.2:194 F '59. (MIRA 12:6)

1. Odesskoye kurortnoye upravleniye.
(ANTIBIOTICS)

YAKUNICHEV, A.I.

Putting into practice the system of planned preventive maintenance. Bum. prom. 38 no.10:13-14 O '63.
(MIRA 16:11)

1. Zamestitel' glavnogo mekhanika Kotlasskogo sul'fitno-tsellyuloznogo kombinata.

YAKUNICHEV, N.I.

288. ELECTROSURGICAL OPERATIONS OF THE LUNGS. (CLINICO-EXPERIMENTAL OBSERVATIONS) (Russian text). Yakunichev N. I. KHIRURGIIA 1957 34 (65-74) Graphs 1 Illus. 4

The article deals with experimental investigations of the blood pressure in systemic and pulmonary circulation, the duration of wound healing, architectonics of the vessels and bronchi in the zone of incision of the lung by scalpel, electroknife and after coagulation. Seventy-three operations were performed in this research (pneumotomy, electro-coagulation of part of the lung). The histological picture of the incised lung tissue and of the coagulated part of the lung as seen during a postoperative period of 60 days are described. Slight changes in the pressure of the femoral and pulmonary arteries are noted in pneumotomy by monoactive and biactive electrodes. In pneumotomy by scalpel there was no change in the pressure in these arteries. Formation of thrombosis in the vessels of the lungs in pneumotomy carried out by scalpel, monoactive and bi ictive electrodes were revealed only in the zone of coagulation (necrosis of the zone of destruction (air cavities)). This was shown by the histological examination and roentgenography after filling of the vessels with contrast medium. Data of clinical observation of 52 patients after operation for suppurative, blastomatous and other diseases of the lungs with the aid of electroknife is presented. The use of the electroknife in thoracic operations for coagulation of bleeding vessels, as well as for the incision of the organ does not increase the number of postoperative complications, lethality or suppurations of the wound.

(IX, 15)

Faculty Therapy Clinic
Pediatrics Faculty, II Moscow
State Med. Inst.
im I. V. Stalin

YAKUNICHEV, N. I., Candidate of Med Sci (diss) -- "Experimental and clinical observations in the electrosurgery of the lungs". Omsk, 1959. 16 pp (Min Health RSFSR, Second Moscow State Med Inst im N. I. Pirogov), 250 copies (KL, No 21, 1959, 121)

SAPELKINA, I.M.; YAKUNICHEV, N.I.

Healing of a lung wound following resection and coagulation with an electric knife (mono- and bipolar electrodes). Eksper. khir. i anest. 8 no.4:31 Jl-Ag '63. (MIRA 17:5)

1. II Moskovskiy meditsinskiy institut imeni N.I. Pirogova.

ANTIPASHIN, N.M., inzh.; GALAKTIONOV, V.I., inzh.; YESHCHENKO, T.I., inzh.; YAKUNICHEV, V.I., inzh.; YAKONYUK, N.S., inzh.; LEMEKHOV, V.N., kand. tekhn. nauk

Preparation of fine natural sand. Stroi. mat. 10 no.1: 25-26 Ja'64. (MIRA 17:5)

MARGOLIS, S.; YAKUNICHEVA, L.

Superimposed trailer for the transportation of reinforced concrete slabs. Avt.transp. 39 no.3:53-54 Mr '61. (MIRA 14:3)
(Truck trailers) (Concrete slabs--Transportation)

L 1658-66 EWT(m)/EWP(w)/EWP(1)/T/EWP(t)/EWP(b)/EWA(c) IJP(c) JD/JG

ACCESSION NR: AP5C21416 UR/0076/65/039/008/1927/1931
669.715+541.11

AUTHOR: Burov, L. M.; Yakunin, A. A.

TITLE: Effect of cooling rate on the formation of a strongly supersaturated solid solution in Al - Mn and Al - Cr alloys

SOURCE: Zhurnal fizicheskoy khimii, v. 39, no. 8, 1965, 1927-1931

TOPIC TAGS: aluminum alloy, manganese alloy, chromium alloy, supersaturated alloy, cooling rate

ABSTRACT: Samples of alloys in which the maximum Mn and Cr content was 9.93 and 4.2 wt. % respectively were obtained in the form of thin films by projecting a drop of molten metal onto a cold copper substrate and glass substrate, where the cooling rate was 50,000 and 300-500 deg/sec respectively. The degree of supersaturation was determined by x-ray diffraction from the change in the lattice constant and also by microhardness measurements. In both types of alloys, the phenomenon of spontaneous decomposition of the strongly supersaturated solid solutions obtained on copper was observed above certain limits. Measurements of lattice constant and microhardness

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ACCESSION NR: AP5021416

as a function of the concentration of the alloying element established the presence of three regions in alloys cooled on glass: (1) a region of supersaturated solid solutions; (2) a region of a two-phase equilibrium characterized by the absence of changes in the lattice constant in the Al - Mn system and the presence of two solid solutions in the Al - Cr system; (3) a region of the decomposed solid solution. Photomicrographs of the films obtained on both copper and glass are given and described. Orig. art. has: 2 figures and 2 tables.

ASSOCIATION: Dnepropetrovskiy gosuniversitet (Dnepropetrovsk State University)

SUBMITTED: 10Apr64 ENCL: 00 SUB CODE: MM

NO REF SOV: 005 OTHER: 002

Card 2/2

ZAKHAR'IN, A.A., inzhener-kapitan 1-go ranga

Test and take care of ground equipment of missile systems.
Mor. sbor. 47 no.7:70-74 Jl '64. (MIRA 18:7)

ZAV'YALOV, Mikhail Aleksandrovich [deceased]; YAKUNIN, A.G., red.

[Cranes and loaders for lumbering operations; their design, use, and repair] Krany i pogruzchiki dlia lesozagotovitel'nykh rabot; ustroistvo, ekspluatatsiia i remont. Moskva, Lesnaia promyshlennost', 1964. 303 p. (MIRA 17:11)

YAKUNIN, A.I., inzhener.

Properties of stainless, chromium-nickel steel made with use of ferro-chromium containing not more than 0.03 of carbon. Sbor. Inst. stali no.35:310-319 '56. (MLRA 10:8)

1. Kafedra elektrometallurgii.
(Steel, Stainless--Metallography) (Iron-chromium-nickel alloys)

YAKUNIN, A. S.

"Methods of Locating Damage in Cables of Moscow Cable Network," "Operation of Cable Networks" (Eksploatatsiya kabeley i kabel'nykh setey), Gosenergoizdat, 1949, 384 pp.

YAKUNIN, A.S.

RUB-150 stump grubber and remover. Trakt.i sel'khozmash. 30 no.2:36-37 F '60. (MIRA 13:5)

1. Tayezhnaya mashinoispytatel'naya stantsiya.
(Clearing of land)

BAKHAREV, A.P., Inzh.; KISLOV, V.G., Inzh.; KARPOV, L.N., kand.tekhn.nauk; YAKUNIN, A.S., Inzh.

The new UTN-5 small-size standard fuel pump. Trakt. i sel'khozmash. no.11:5-8 N '64. (MIRA 18:1)

1. Noginskiy zavod toplivnoy apparatury (for Kislov). 2. Tsentral'nyy nauchno-issledovatel'skiy i konstruktorskiy institut toplivnoy apparatury avtotraktornykh i statsionarnykh dvigateley (for Yakunin).

YAKUNIN, A. YA. and GORELIK, S. I.

"Temperature Dependence of Capacity of Cuprous Oxide and Selenium Rectifiers", Nauch. Zap. Dnepropetrovskogo Gos. Univ., 41, 1953, pp 13-21.

Assumption is made that the stopping layer in cuprous oxide and selenium depends on the contact of the electron and hole zones. It was expected that the thickness of the stopping zone will decrease with rising temperature and that the capacity of the rectifier will increase inboth the stopping and the conducting directions. Results of measurements confirmed these assumptions. (RZhFiz, No 1, 1955) SO: Sum No. 443, 5 Apr. 55

YAKUNIN, A. Ya.

Kolomoytsev, F.I. and Yakunin, A. Ya. [Dnepropetrovskiy gosudarstvennyy universitet (Dnepropetrovsk State University)] The Influence of X-rays on the Electroconductivity of Dielectrics

(The Physics of Dielectrics; Transactions of the All-Union Conference on the Physics of Dielectrics) Moscow, Izd-vo AN SSSR, 1958. 245 p. 3,000 copies printed.

This volume publishes reports presented at the All-Union Conference on the Physics of Dielectrics, held in Dnepropetrovsk in August 1956 sponsored by the "Physics of Dielectrics" Laboratory of the Fizicheskiy Institut imeni Lebedeva AN SSSR (Physics Institute imeni Lebedev of the AS USSR), and the Electrophysics Department of the Dnepropetrovskiy gosudarstvennyy universitet (Dnepropetrovsk State University).

YAKUNIN, A. Ya.

Professor F. I. Kolomoytsev and A. Ya. Yakunin, Dnepropetrovsk University (Dnepropetrovskiy universitet)

"The variation of the electric conductivity and the EMF induced by X-ray radiation by temperature and the intensity of the X-rays in polyethylene, polystyrene, teflon, polymethylmethacrylate, mica, and other dielectrics"

Report presented at a Conference on Solid Dielectrics and Semiconductors, Tomsk Polytechnical Inst., 3-8 Feb. 58.
(Elektrichestvo, '58, No. 7, 83-86)

SOV/139-58-5-27/35

AUTHORS: Kolomoytsev, F. I., Yakunin, A. Ya.

TITLE: The Effect of Electromotive Forces Produced by X-ray Irradiation of Dielectrics on Relationships which Govern the Induced Current (Vliyaniye E.D.S., voznikayushchikh pri rentgenoblichenii v dielektrikakh, na zakonomernosti navedennogo toka)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, fizika, 1958, Nr 5, pp 127-132 (USSR)

ABSTRACT: The paper was presented at the Conference of Higher Educational Establishments on Dielectrics and Semiconductors at Tomsk, February, 1958. Irradiation with photons increases electrical conductivity of dielectrics and produces e.m.f's between electrodes of an irradiated sample. In work on the increase of electrical conductivity of dielectrics by photon irradiation the induced e.m.f.'s are usually neglected. The present authors deal with these neglected e.m.f.'s and show that their actual values may be very high (of the order of hundreds or thousands of volts). Fig.1 gives the usual electric circuit employed in measurement of changes in electrical conductivity of dielectrics (Fig.1a) and the equivalent representation of this circuit (Fig.1b). E and R_i are the

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e.m.f. and internal resistance of an external voltage source, R_H is a standard resistance, R_o is the resistance of a sample under irradiation and ε is the e.m.f. induced by irradiation. Since $R_c \gg R_H \gg R_i$, even a high value of ε produces only a small drop of potential across the standard resistance R_H; this drop may be only 0.1 to 0.0001 V. The authors describe several methods of determination of the e.m.f.'s induced by irradiation. One of these methods is a compensation method: the induced e.m.f. is compensated by reverse potential from a battery E. Since the induced e.m.f. depends on the intensity of incident X-rays and on the sample temperature, the compensation may be produced by a change of temperature or X-ray intensity and keeping the value of E constant. The second method described is based on the measurement of currents in the circuit when E and ε act in the same sense and when they are opposed to each other. The

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current due to the external voltage source is equal to the arithmetic mean of the two measurements: $I_{av} = 1/2 (I_+ + I_-)$. The current due to the induced e.m.f. is $I_\varepsilon = I_{av} - I_+ = I - I_{av}$ and the value of the induced e.m.f. is given by $\varepsilon = EI_\varepsilon/I_{av}$. The induced e.m.f. may be also measured directly by means of an electrostatic voltmeter connected directly to the sample. The internal resistance of such a voltmeter and insulation of the leads should exceed the resistance of the sample by two to three orders of magnitude. Measurements made using these three methods gave identical results and showed that at low temperatures and high X-ray intensities the value of the induced e.m.f. may be of the order of hundreds and thousands of volts. The front (irradiated)electrode of the sample has a positive potential with respect to the back electrode. The induced e.m.f. affects greatly the value of the current passing through the dielectric. Such effects were found in polystyrene, polyethylene, Teflon, polymethylmethacrylate, mica, etc. Voltage-current characteristics at various X-ray intensities are given in Fig.2 for

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a sample of mica at 30°C. The straight lines 1 to 5 of Fig.2 were obtained at increasing X-ray intensities: the X-ray tube current was 1 mA for line 1 and 14 mA for line 5. The lines do not pass through the origin of coordinates but cut the axis at values from 100 V up. Fig.2 shows that the induced e.m.f. ε (given by the points where the straight lines cut the abscissa) rise with increase of the X-ray intensity. The straight lines all intersect at a point whose abscissa gives the maximum value of the induced e.m.f. at the temperature of the experiment. The induced e.m.f. varies exponentially with temperature:

$$\varepsilon = Ae^{-\frac{U_e}{kT}} \qquad (2)$$

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Fig.3 gives the change of current with temperature in polymethylmethacrylate for the same (curve 1) and opposed (curve 2) senses of external and induced e.m.f. Curve 3 in Fig.3 gives the true current. This difference between currents with the coincident and opposing senses of the external and induced voltages would affect greatly any measurement of the temperature dependence of the electrical conductivity of a dielectric, if this conductivity was deduced from the current. The conductivity curves for polymethylmethacrylate (Plexiglas) are given in Fig.4. The three pairs of curves were obtained at applied voltages of ±90, ±388, ±1512 V. The seventh characteristic, which is a straight line, symmetrical to that of the other curves, gives the true dependence of the electrical conductivity obtained by allowing for the currents flowing due to induced e.m.f.'s. The temperature dependence of the true electrical conductivity is also given by an exponential law:

$$\sigma_{true} = \sigma_o e^{-\frac{U}{kT}} \qquad (3)$$

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The energy of activation in Eq.(3) and the energy occurring in Eq.(2) were found to be equal: $U = U_e$. Fig.5 gives the dependence of current in polystyrene on X-ray intensity at applied voltages of -272 V (curve 1) and +272 V (curve 2). Using the method of average currents, the effect of induced e.m.f. may be allowed for and a true dependence of current on X-ray intensity can be constructed (curve 3, Fig.5). The dependence of the true current and true electrical conductivity on the X-ray intensity is given by a power law:

$I = aP^n$, where a and n are constants and P is the X-ray intensity. The induced e.m.f. is given by a similar power law :

$\varepsilon = bP^m$ (Fig.6); again, b and m are constants and $n + m \approx 1$. The induced e.m.f. is due primarily to differences between the conditions of absorption of X-ray

The Effect of Electromotive Forces Produced by X-ray Irradiation of Dielectrics on Relationships which Govern the Induced Current

energy and the front and back electrodes of the dielectric. This produces a gradient of current carriers across the sample. The work reported is summarised in the following conclusions:

1) X-rays and other photons of sufficient energy produce e.m.f.'s in dielectrics which may be of the order of hundreds and thousands of volts at high X-ray intensities.

2) The induced e.m.f.'s and the applied voltages from external sources are algebraically additive; it follows that the induced e.m.f.'s should be allowed for any experiments in photoinduced conductivity of dielectrics.

3) The induced e.m.f.'s increase with the X-ray intensity follow a power law and they fall exponentially with temperature.

SOV/139-58-5-27/35

The Effect of Electromotive Forces Produced by X-ray Irradiation of Dielectrics on Relationships which Govern the Induced Current

There are 6 figures and 20 references; 16 of the references are Soviet, 2 are English and 2 German.

ASSOCIATION: Dnepropetrovskiy gosuniversitet (Dnepropetrovsk State University)

SUBMITTED: April 7, 1958.

Card 8/8

YAKUNIN. A. Ya., Cand or Phys-Math Sci (diss) "Electrical Conductivity and Induction of EDS into Hard Dielectrics During X-Ray Radiation," Dnepropetrovsk, 1959, 17 pp (Dnepropetrovsk State Univ) (KL, 1-60, 119)

YAKUNIN, A.YA.

Fizika dielektrikov, trudy vtoroy vsesoyuznoy konferentsii (Physics of Dielectrics, Transactions of the 2d All Union Conference on the Physics of Dielectrics) Moscow, Izd-vo AN SSSR, 1960. 532 p. Errata slip inserted. 5,000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Fizicheskiy institut imeni P.N. Lebedeva.

Ed. of Publishing House: Ye.L. Starokadomskaya, Tech. Ed.: I.N. Dorokhina; Editorial Board: (Resp. Ed.) G.I. Skanavi, Doctor of Physics and Mathematics (Deceased), and K.V. Filippova, Candidate of Physics and Mathematics.

PURPOSE: This collection of reports is intended for scientists investigating the physics of dielectrics.

COVERAGE: The Second All-Union Conference on the Physics of Dielectrics held in Moscow at the Fizicheskiy institut imeni P.N. Lebedeva (Physics Institute imeni P.N. Lebedev) in November 1958 was attended by representatives of the principal scientific centers of the USSR and of several other countries. This collection contains most of the reports presented at the conference and summaries of the discussions which followed. The reports in this collection deal with dielectric properties, losses, and polarization, and with specific inductive capacitance of various crystals, chemical compounds, and ceramics. Photoelectrets, ferroelectric crystals, and various radiation and irradiation effects on dielectrics are investigated. The volume contains a list of other papers presented at the conference dealing with polarization, losses, and breakdowns of dielectrics, which were published in the journal Izvestiya AN SSSR, seriya fizicheskaya, Nos. 1 and 2, 1960. No personalities are mentioned. References accompany each report.

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A001/A001

9.2000 (1001, 1024, 1331)

Translation from: Referativnyy zhurnal, Fizika, 1960, No. 10, pp. 251-252, # 26995

AUTHORS: Kolomoytsev, F.I., Yakunin, A.Ya., Sviridenko, O.N.

TITLE: Measurements of Electromotive Forces Induced in Dielectrics Irradiated by X-Rays

PERIODICAL: Nauchn. zap. Dnepropetr. un-t, 1957, Vol. 72, pp. 3 - 6

TEXT: The authors measured emf $\mathcal{E}$ induced in polyethylene insulation by X-ray irradiation (voltage in a X-ray tube was 48 kv, current was 12 ma). The temperature course of emf was established within the range of temperatures from -30 to + 70°C; it obeys the law: $\mathcal{E} = A \exp(u/kT)$, where $u = 0.5$ ev, $A = 1.7 \times 10^{-7}$ v is a constant. At a temperature of -30°C the $\mathcal{E}$-value attains $\sim 10^3$ v. The temperature dependence of polyethylene electric conductivity was measured for the cases when an external voltage is of the same or the opposite sign to that of induced $\mathcal{E}$, as well as the temperature dependence of dark electrical conductivity. It follows

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S/058/60/000/010/002/014
A001/A001

Measurements of Electromotive Forces Induced in Dielectrics Irradiated by X-Rays

from the slope of the curves that the activation energy of dark carriers is higher than that of the induced ones. All the curves blend with the rising temperature, which indicates the lowering of the excitation effect at high temperatures.

A.Zh.

Translator's note: This is the full translation of the original Russian abstract.

30411

21.7100

S/058/61/000/009/029/050
A001/A101

AUTHORS: Kolomoytsev, F.I., Yakunin, A.Ya.

TITLE: Dependence of additional electric conductivity and emf induced by X-ray irradiation on thickness of dielectric specimens

PERIODICAL: Referativnyy zhurnal. Fizika, no. 9, 1961, 200, abstract 9E156 (V sb. "Fizika dielektrikov", Moscow, AN SSSR, 1960, 495 - 499)

TEXT: Measurements of additional electric conductivity $\Delta\sigma$, induced by X-ray irradiation, in specimens of polystyrene and polycrystalline S have shown that theoretical linear dependence of $\Delta\sigma$ on specimen thickness d is confirmed and that changes of d do not lead to changes in the nature of dependence of $\Delta\sigma$ on temperature, irradiation intensity and field strength E. The theoretical dependence of induced emf on irradiation intensity at various electrodes is also well confirmed by experiments.

V. K.

[Abstracter's note: Complete translation]

Card 1/1

30412

S/058/61/000/009/030/050
A001/A101

21.7100

AUTHORS: Kolomoytsev, F.I., Mitskevich, P.K., Bobyl', V.G., Yakunin, A.Ya.

TITLE: Comparison of some properties of solid and liquid dielectrics subjected to irradiation

PERIODICAL: Referativnyy zhurnal. Fizika, no. 9, 1961, 201, abstract 9E157 (V sb. "Fizika dielektrikov", Moscow, AN SSSR, 1960, 510 - 517)

TEXT: Experimental dependences of electric conductivity σ on irradiation of solid dielectrics (I) (mica, quartz, polyethylene, polystyrene, polytetrafluoroethylene, polymethyl methacrylate, etc) were compared with those of liquid dielectrics (II) (chloroform, bromoform-ether, bromoform-anisole, iodoform-ether, chlorophenol, bromobenzene, etc). It was found that increase of σ during irradiation and decrease at discontinuation of irradiation was caused by fixing charge carriers on metastable levels with their subsequent thermal liberation. Additional $\Delta\sigma$ (at irradiation) depends on the nature and intensity of irradiation and on the purity of the dielectric. After discontinuation of irradiation $\Delta\sigma$ decreases with time proportional to $t^{-\alpha}$ (liberation of charge carriers from metastable levels). $\Delta\sigma$ is proportional to field strength up to fields with 10^4 v/cm

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30412

S/058/61/000/009/030/050

Comparison of some properties of solid and liquid ... A001/A101

(the law holds at changes of temperature T and intensity of irradiation). For II, $\Delta\sigma$ is higher by 10^2 - 10^3 times than for I . $\Delta\sigma \simeq \varepsilon^{\gamma}$ (ε is intensity of irradiation; $0.5 \leq \gamma \leq 1$). It is shown that $\lg \Delta\sigma \sim 1/T$.

V. K.

[Abstracter's note: Complete translation]

Card 2/2

30??
S/048/61/025/011/???/031
B117/B102

1.2571(6150 1162)
15.2450

AUTHORS: Kolomoytsev, F. I., Kodzhespirov, F. F., Yakunin, A. Ya., and Sinyakov, Ye. V.

TITLE: Some possibilities of improving the quality of superhigh-frequency ferrites

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 25, no. 11, 1961, 1422-1426

TEXT: Ferrites with the composition $MgAl_{0.3}Fe_{1.7}O_4$ (Ref. 1: Smolenskiy G. A., Gurevich, A. G., Poluprovodniki v nauke i tekhnike (Semiconductors in science and engineering), v. II. Izd. AN SSSR, 1958; Refs. 2 and 3: see below) were examined. These ferrites were prepared from the oxides by the usual technique, namely, at different temperatures of preliminary annealing T_{pre} and of final annealing T_{fin}. Experiments showed that the magnetization of a single formula unit of ferrite changes in the range of $0.78 \leqslant m \leqslant 1.30$ when the sintering technique is varied. An increase of the annealing temperature and slow cooling result in lower values of the

Card 1/3

Some possibilities of ...

saturation magnetization m, and yields a better ordered spinel. At the same time, the ferrite density ϱ increased so much that mϱ and, consequently, the activity of the specimens increased as well. mϱ and the phase shift $\Delta\varphi$ are interrelated. A less ordered distribution of metal ions in the lattice was observed when the specimens were chilled. This led to excessively high values of m and $\Delta\varphi$. These conclusions were substantiated by an X-ray determination of the lattice constants. It is possible to reduce the losses by a proper choice of annealing temperatures. The following conditions of heat treatment in the furnaces with constant cooling time τ = 15 hr are suggested for Al-Mg ferrites: T_{pre} = 1100°-1120°C (4-6 hr); T_{fin} = 1200°-1150°C (4-6 hr). Al-Mg ferrites as well as other ferrite types can be improved as to activity and losses by additional heating in a suitable atmosphere. It is finally stated that the quality of ferrites can be improved by separate regulation of their activity and losses. As to Al-Mg ferrites, it is recommended that the sintering temperatures should not be higher than 1200°C. Quicker cooling at adequate temperature and duration of annealing is of decisive importance to an increase of activity. Losses are reduced by annealing in an oxygen-saturated atmosphere or in an oxygen stream. In this case large

Card 2/3

Some possibilities of ...

crystallites must be prevented from forming in the polycrystalline system. There are 2 figures, 3 tables, and 9 references: 5 Soviet and 4 non-Soviet. The three references to English-language publications read as follows: Ref. 2: Vitert L. G., Schafer I. P., Hogan C. L., J. Appl. Phys., 25, no. 7 (1954); Ref. 3: Vitert L. G., J. Appl. Phys., 28, no. 3 (1957); Blackman A. B., J. Amer. Cer. Soc., III, 42, no. 3 (1959).

X

BARTASHEVSKIY, Ye.L. [Bartashevs'kyi, IE.L.]; KOLOMOYTSEV, F.I. [Kolomoitsev, F.I.]; KODZHESPIROV, F.F.; POGOREL'SKIY, A.Ye. [Pohorel'skyi, A.IE.]; SIVTSEV, D.S.; YAKUNIN, A.Ya. [IAkunin, O.IA]

Relationship between saturation magnetization and the parameters of ferrites used in the superhigh-frequency technique. Ukr. fiz. zhur. 8 no.8:894-899 Ag '63. (MIRA 16:11)

1. Dnepropetrovskiy gosudarstvennyy universitet.

S/0139/64/000/002/0142/0146

ACCESSION NR: AP4036570

AUTHORS: Kodzhespirov, F. F.; Kolomoytsev, F. I.; Yakunin, A. Ya.

TITLE: Photoconductivity of teflon-3, stimulated by x-rays

SOURCE: IVUZ. Fizika, no. 2, 1964, 142-146

TOPIC TAGS: photoconductivity, teflon, x ray, copper anticathode, induced current, electric field, relaxation delay, URS 70

ABSTRACT: The x-ray induced electrical conductivity and photoconductive properties in teflon-3 were investigated experimentally for various temperatures, electric fields, and x-ray intensities. Measurements were made in 5 x 10^{-5} mm Hg vacuum on 25 mm diameter disk-shaped specimens. Specimen potential was obtained from BAS-G-80 batteries, and the x-ray source used was a URS-70 equipment with BSV tube and a copper anticathode. The time dependence of the induced current I at various thicknesses (1 mm, 0.025 mm) under 1.5 x 10^4V/cm electric field was found to obey the law $I=I_0\left(1-e^{-\frac{t}{\tau}}\right)$. A graph of relative relaxation delay plotted against induced current showed no dependence on the applied voltage. Curves for radiation followed by blackout plotted against time showed a dependence of the form $\lg(I_\infty - I_t) = f(t)$.

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ACCESSION NR: AP4036570

where I_m - maximum current, I_t - instantaneous value of current. Photocurrent versus X-ray intensity P curves showed a linear rise of ΔI in P, with slopes increasing in proportion to the applied voltage (40, 70, and 100 volts). Orig. art. has: 5 figures and 2 formulas.

ASSOCIATION: Dnepropetrovskiy gosuniversitet (Dnepropetrovsk State University)

SUBMITTED: 25May62 DATE ACQ: 05Jun64 ENCL: 00

SUB CODE: SS, EM NO REF SOV: 013 OTHER: 003

Card 2/2

L 12577-65 EWT(l)/EEC(b)-2 IJP(c)

ACCESSION NR: AP4044854 S/0051/64/017/003/0418/0421

AUTHORS: Pilipenko, V. M.; Yakunin, A. Ya. 8

TITLE: [illegible] of excited electroluminescent cells

SOURCE: Optika i spektroskopiya, v. 17, no. 3, 1964, 418-421

TOPIC TAGS: electric conductivity, electroluminescence, photoconductivity, photoelectric cell

ABSTRACT. The laws governing the variation of electric conductivity and brightness of electroluminescent cells and their dependence on the excitation conditions was investigated in two types of samples. The electric conductivity of the samples shown in Fig. 1a of the enclosure was measured in a direction parallel to the alternating exciting electric field. The conductivity of the samples of the second type (Fig. 1b) was measured in a direction perpendicular to the field. The measurement circuits are illustrated in Fig. 2 of the

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L 12622-65
ACCESSION NR: AP4044854

enclosure. The test results lead to the following conclusions: 1. A glow-producing alternating voltage causes also an increase in the electric conductivity of ZnS-Cu electroluminescent cells. 2. The increase of the conductivity is not connected with heating of [illegible] 3. The increase of the electric conductivity of [illegible] by an alternating electric field is analogous to the law governing the increase in electric conductivity of the gas under impact ionization. Orig. art. has: 4 figures and 2 formulas.

ASSOCIATION: None

SUBMITTED: 06Nov63 ENCL: 02

SUB CODE: OP, EM NR REF SOV: 006 OTHER: 002

Card 2/4

ACC NR: AP7004973 SOURCE CODE: UR/0048/66/030/009/1461/1462

AUTHOR: Kolomoytsev,F.I.; Pilipenko,V.M.; Yakunin,A.Ya.

ORG: Dnepropetrovsk State University (Dnepropetrovskiy gosudarstvennyy universitet)

TITLE: On slow processes involved in the electroluminescence of ZnS:Cu phosphors /Report, Fourteenth All-Union Conference on Luminescence (Crystal Phosphors) held at Riga, 16-23 Sept. 1965/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 30, no. 9, 1966, 1461-1462

TOPIC TAGS: electroluminescence, zinc sulfide, copper, LIGHT aging, fatigue, rectification, electrolysis, LUMINOPHOR

ABSTRACT: The authors have investigated the processes of aging and fatigue in ZnS:Cu electroluminophors. The loss of brightness of an electroluminescent cell during operation is in part reversible (fatigue) and in part irreversible (aging). Recovery from fatigue takes place by diffusion processes and is described by the sum of two exponential terms with time constants (at 80° C) of the order of 1 and 10 hours. It is hypothesized that aging is due to electrolytic action of the rectified current through the cell. To test this hypothesis cells were operated with forward and back dc biases of such magnitude as to alter the direct current through the cell by a factor of 3. Loss of brightness during operation was found to be appreciably accelerated by the forward bias and retarded by the back bias. The recovery curves of

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ACC NR: AP7004973

the biased cells are not discussed. It was also found that loss of brightness could be retarded by carefully drying the cells and sealing them from moisture. A well-dried cell actually increased in brightness during the first hour of operation at 1 kHz. It is concluded that build-up of brightness can be achieved not only in certain classes of electroluminescent cells, but in all types of them, by taking measures to reduce to a minimum the effects of rectification. Orig. art. has: 3 figures.

SUB CODE: 20 SUBM DATE: none ORIG. REF: 003 OTH REF: 001

Card 2/2

ACC NR: AP7001971 SOURCE CODE: UR/0048/66/030/009/1454/1457

AUTHOR: Yakunin, A.Ya.; Pilipenko,V.M.

ORG: Dnepropetrovsk State University (Dnepropetrovskiy gosudarstvennyy universitet)

TITLE: Variation of the through conductivity of ZnS:Cu electroluminophors during radiation /Report, Fourteenth All-Union Conference on Luminescence (Crystal Phosphors) held at Riga, 16-23 Sept. 1965/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 30, no. 9, 1966, 1454-1457

TOPIC TAGS: electroluminescence, electric conductivity, impact ionization, zinc sulfide, copper

ABSTRACT: The authors have measured the direct conductivity of ZnS:Cu electroluminescence cell as a function of the temperature and the voltage of the 20 kHz alternating potential applied to excite it to luminescence. It was found that log $(\log(I/I_0))$ is a linear function of 1/V for fixed temperature T, where I is the direct conduction current, I_0 is a constant, and V is the alternating exciting voltage. This relation is consistent with the simple impact ionization mechanism of current carrier multiplication. When log $(\log(I/I_0)/T)$ was plotted against T for fixed V there resulted a broken line with a single knee at about 350° K. The straight line dependence is in accordance with the impact ionization mechanism, and the knee is explained by assuming that charges are preferentially freed at different temperatures from different levels. The derivatives dI/IdV and dB/BdV, where B is

ACC NR: AP7004971

the brightness of the luminescence, were calculated from the experimental curves and plotted against V. The value of dI/IdV passed through a maximum as a function of V, and the value of V for maximum dI/IdV was a linear function of T. This behavior is also consistent with the simple impact ionization mechanism. It is concluded that the electroluminescence of ZnS:Cu phosphor is accompanied by increase in the electrical conductivity; that the increase in the conductiwity is the greater, the more intense the luminescence; that the relation between the electroluminescence and the conductivity stems from the fact that both effects are due to ionization; and that the observed behavior of the two phenomena is not in conflict with the hypothesis that the electroluminescence is excited by impact ionization propagating through the ZnS lattice due to the presence of a strong exciting electric field. Orig. art. has: 8 formulas and 3 figures.

SUB CODE: 20 SUBM DATE: none ORIG. REF: 012 OTH REF: 004

Card 2/2

MARKOSYAN, A.A.; YAKUNIN, G.A.

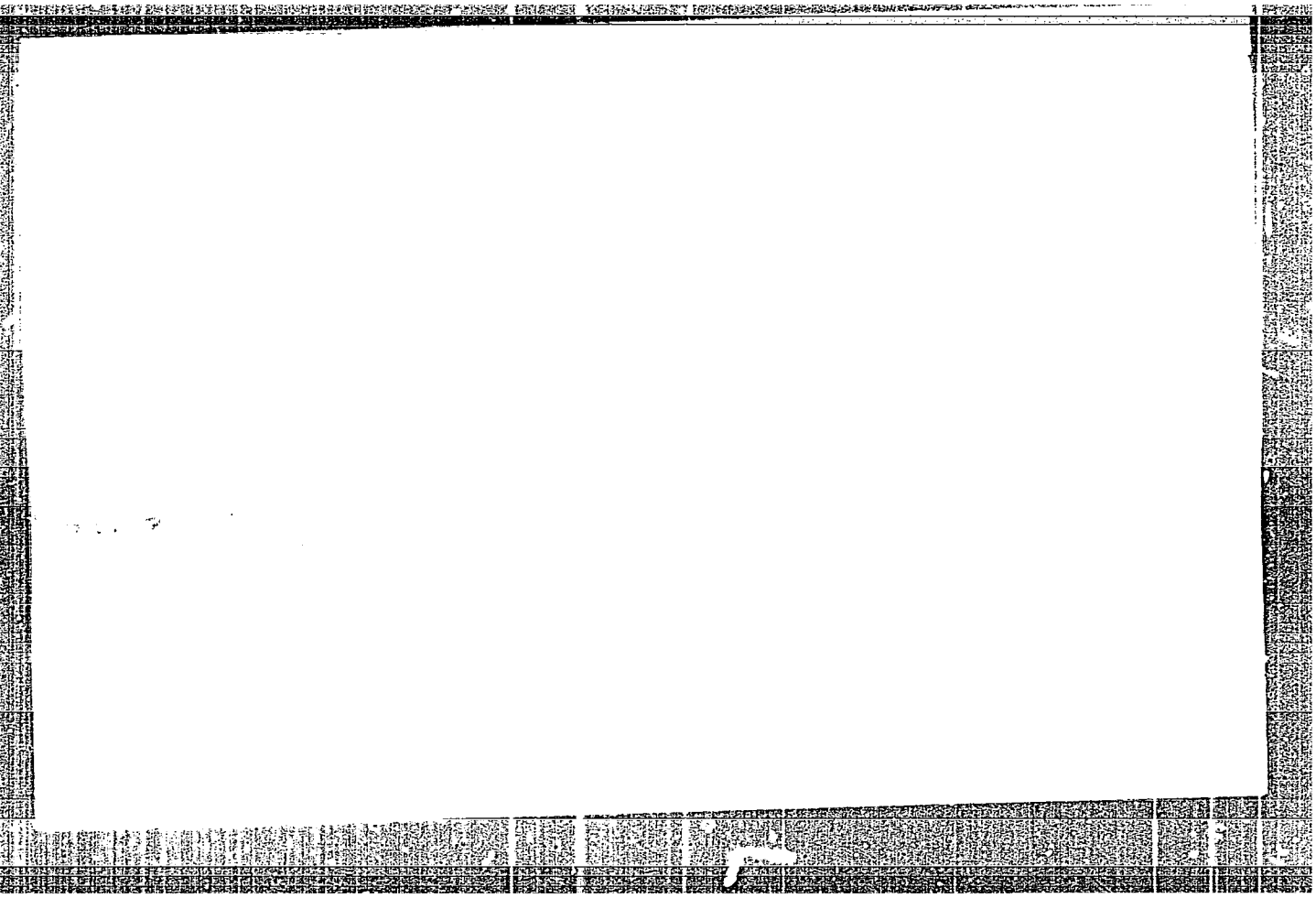
Effect of excitation of the cerebral cortex and reticular formation on the rate of blood coagulation, factor V content and change in the electrical activity of the brain. Fiziol. zhur. 48 no.3:271-278 Mr '62. (MIRA 15:4)

1. Nauchno-issledovatel'skiy institut fizicheskogo vospitaniya i shkol'noy gigiyeny Akademii pedagogicheskikh nauk RSFSR, Moskva.
(CEREBRAL CORTEX) (BLOOD--COAGULATION)
(ELECTROENCEPHALOGRAPHY)

YAKUNIN, G.A.

Role of the reticular formation of the pons variolii in blood coagulation regulation. Biul. eksp. biol. i med. 57 no.3:11-15 Mr. '64. (MIRA 17:11)

1. Nauchno-issledovatel'skiy institut fizicheskogo vospitaniya i shkol'noy gigiyeny (dir. - chlen-korrespondent APN RSFSR doktor biologicheskikh nauk A.A. Markosyan), Moskva. Predstavlena deystvitel'nym chlenom AMN SSSR V.V. Parinym.



YAKUNIN, G. I.

"Investigation of Some Elements in the Process of Cutting Steel in Nitrogen, Air, and Oxygen." Cand Tech Sci, Central Asian Polytechnic Inst, Min Higher Education USSR, Tashkent, 1954. (KL, No 8, Feb 55)

SO: Sum. No. 631, 26 Aug 55-Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (14)

YAKUNIN, G.I.

The Use of Oxygen to Increase the Wear Resistance of High-Speed Steel Cutting Tools.

By G. I. YAKUNIN. (From *Stanki i Instrument*, Russia, No. 4, April 1955, pp. 21-22.)

FOLLOWING earlier suggestions on the use of gases for the purpose of cooling the cutting edge during the machining of metals, the author has carried out tests to establish the influence of oxygen on the resistance of the cutting edge and its period between regrinds.

These tests were carried out on a lathe by machining steel of 80 kg/mm² tensile strength with a conventional high-speed steel tool bit of standard cutting-edge geometry. At a depth of cut of 0·8 mm and a rate of feed of 0·2 mm per revolution the gas was supplied under a pressure of about 70 mm water gauge at a rate of about 20 litres/min. The cutting speed was varied in the range between 25 and 55 m/min. It was found that, at the lowest cutting speed, cooling with oxygen gave a period between regrinds of 544 min, whilst nitrogen reduced this period to 170 min and air to 99 min. To achieve a period of one hour between regrinds, oxygen cooling permits an increase in cutting speed of 6·8%, compared with air cooling.

Observations of chip formation and additional tests at different cutting speeds have elucidated the processes which take place in oxygen cooling. Two processes take place simultaneously on the surface of the cutting edge, i.e., the formation of an oxidized layer, and its destruction and removal. With an increased depth of the deformed layer at the cutting edge, the depth of the oxidized layer is also increased; when this attains a certain depth the layer cannot be removed at once and from then onwards friction takes place on the surface of the layer. It is clear from the tests that, if the cutting speed is high enough for an oxidized layer of sufficient thickness to be formed at once in a stabilized condition, without change in the nature of the chip surface, will result.

YAKUNIN, G. I.

The patent description "Method of Increasing the Durability of Cutting Tools by Means of Introducing Gases Into the Cutting Zone," by G. I. Yakunin, describes a new method for increasing the durability of cutting tools by means of the introduction of bases into the cutting zone. Oxygen is blown into the cutting zone to create thick oxide films, which prevent the welding of the material being worked and the material of the cutting tool during the cutting process.

A patent was granted under Class 49, Machining of Metals - 49a, 101, No 105142, 23 July 1954, to the Ministry of Machine Tool Building and Tool Industry USSR. (Byulleten' Izobreteniy, No 1, Jan 57, p 4a) (U)

54M.1384

35708

18.1170

S/123/62/000/005/007/010
A052/A101

AUTHOR: Yakunin, G. I.

TITLE: The effect of gaseous medium on mechanical properties of metals and on the cutting tool wear

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 5, 1962, 54, abstract 5B312 ("Tr. Sredneaz. politekhn. in-ta", no. 15, 1961, 78-83)

TEXT: To study the effect of oxygen on mechanical properties of metals, steel 45 samples 5 mm in diameter were ruptured on Brinell press in air, nitrogen and oxygen media. It has been established that oxygen raises the strength and ductility of samples at rupture. At comparative tests of steel 30 samples, annealed at 350°C during one hour in oxygen, air, water vapor and cast iron shavings, an increase of the yield point and ultimate strength has been established also with the samples annealed in oxygen. In the process of cutting in the oxygen medium the mechanical properties of the machined material improve considerably. The facilitation of the cutting process in the oxygen medium can be attributed to the decrease of friction under these cutting conditions. The effect of water vapor contained in oxygen on the service life of high-speed

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S/123/62/000/005/007/010
A052/A101

The effect of gaseous medium ...

tools was also investigated. It has been established that the saturation of oxygen with water vapor reduces sharply the service life of the tool. In the process of cutting in the atmosphere of oxygen passed through a cold water layer (for drying), the service life of high-speed tools can be increased by 2 - 4 times compared with cutting in the atmosphere of commercial oxygen. In order to raise the service life of high-speed tools, it is recommended to treat them with oxygen rather than with vapor. There are 5 references and 6 tables.

L. Bozin

[Abstracter's note: Complete translation]

Card 2/2

YAKUNIN, G.I., kand.tekhn.nauk; MIRBABAYEV, V.A., starshiy prepodavatel'

Effect of the oxidation of frictioning surfaces on the readings of a normal thermocouple. Izv.vys.ucheb.zav.; mashinostr. no.6:84-89 '62. (MIRA 15:11)

1. Sredneaziatskiy politekhnicheskiy institut.
(Metal cutting) (Thermocouples)

YAKUNIN, G.I.; MIRBABAYEV, V.A.

Distoring effect of oxides on the readings of a natural thermocouple. Izv.AN Uz.SSR.Ser.tekh.nauk 7 no.2:64-67 '63. (MIRA 16:4)

1. Tashkentskiy politekhnicheskiy institut.
(Thermocouples—Testing)

S/0148/64/000/003/0185/0187

ACCESSION NR: AP4022901

AUTHOR: Yakunin, G. I.

TITLE: Testing the strength of steel at elevated temperatures in certain gas media

SOURCE: Ivuz. Chernaya metallurgiya, no. 3, 1964, 185-187

TOPIC TAGS: rupture test, gas medium, blue brittleness, nitrogen, oxygen, water vapor, diffusion, oxide film, steel, steel strength

ABSTRACT: In order to determine the effect of a gas atmosphere on the strength of steel specimens, the author conducted high-temperature tests in air, oxygen, nitrogen and water vapor. Oxygen was removed from nitrogen by passing through an alkaline pyrogallol solution. The steel was composed of 0.025% C, 0.02% Si, 0.40% Mn, 0.035% P and 0.046% S. The 60 mm long specimens with a diameter of 6 mm were made from the same rod and heated to the desired temperature, held for 10 minutes and subjected to rupture tests. Gas was supplied throughout the test period. A blue brittleness zone appeared in all specimens. Maximum strength in an air medium was observed at 300 C, in nitrogen and oxygen at 400 C and in vapor

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ACCESSION NR: AP4022901

at 450 C. All tested media except nitrogen brought about a sharp loss of ductility. Within the high-temperature range the mechanical properties were found to depend upon the character and the properties of the oxide film. Diffusion, which is intensified by raised temperatures, also affects strength. At temperatures at which oxidation in water vapor sets in, the strength of the specimens was appreciably increased. The analogous strength of nitrogen and oxygen is attributed to the diffusion of nitrogen into the metal as a result of deformation. The author attributes blue brittleness to the effect of the gas atmosphere. Orig. art. has: 2 figures.

ASSOCIATION: Tashkentskiy politekhnicheskiy institut (Tashkent Polytechnic Institute)

SUBMITTED: 22Aug61 DATE ACQ: 10Apr64 ENCL: 00

SUB CODE: M NO REF SOV: 004 OTHER: 001

Card 2/2

L 24191-65 EWT(m)/EWP(w)/EWA(d)/T/EWP(t)/EWP(b) MJW/JD
ACCESSION NR: AP5001348 S/0167/64/000/005/0016/0019

AUTHOR: Yakunin, G. I., Mirbabayev, V. A., Politsan, V. A.

TITLE: Cause of the appearance of thermoelectric current during friction between similar metals

SOURCE: AN UzSSR. Izvestiya. Seriya tekhnicheskikh nauk, no. 5, 1964, 16-19

TOPIC TAGS: thermocurrent, friction emf, friction pair, plastic deformation, friction rate, thermal emf, oxide film steel friction

ABSTRACT: Friction between similar metals can produce an emf if a film having different thermoelectric properties from the base metal is formed on one or both of the friction surfaces. The film can be either an oxide of the metal or, since plastic deformation changes the thermoelectric properties, a thin friction-deformed layer of the metal. Since a thermal emf cannot arise if the film and the base metal are at the same temperature, a more or less significant temperature gradient is the second prerequisite. The temperature gradient may increase due to an increase [illegible] [illegible] [illegible], which [illegible] acts as an [illegible] [illegible] types [illegible] [illegible] KhVG, [illegible] KhGSA, [illegible] [illegible] were tested in [illegible] a medium of water and nitrogen
Card 1/2

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R001962020003-8"

L 21191-65

ACCESSION NR: AF5001348

(st. 40 was tested with and without chrome plating). The results showed that a thermocurrent appears during friction of similar metals due to oxidation of the friction surfaces. No thermocurrent results from friction of similar, unoxidized metals (stainless steel [illegible] at all speeds corresponding to [illegible] that when determining the [illegible] friction surfaces lead to [illegible] and 1 table.

Card 2/2

L 10350-67 EWP(k)/EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AP6015881 SOURCE CODE: UR/0167/65/000/006/0049/0051

33

AUTHORS: Yakunin, G. T.; Mirbabayev, V. A.; Abramyan, Ya. P.

ORG: Tashkent Polytechnic Institute (Tashkentskiy politekhnicheskiy institut)

TITLE: Increasing the life of high temperature alloy cutting tools by introducing electric current and gaseous oxygen into the cutting region

SOURCE: AN UzSSR. Izvestiya. Seriya tekhnicheskikh nauk, no. 6, 1965, 49-51

TOPIC TAGS: cutting tool, thermoelectric cooling, steel alloy, tool alloy, metal cutting/ 5 steel alloy, VK8 tool alloy

ABSTRACT: Thermoelectric cooling of the cutting zone to increase tool life has been proposed and investigated by several authors (Tool Cooler. Mechanical Engineering, vol. 85, 1963, No. 2, for example). Since the thermoelectric e.m.f. in metal couples is small, the effects can be substantially increased by oxidizing the metals in the cutting region. Steel 5 specimens were turned at 91.5 m/min (t = 1 mm, S = 0.2 mm/rev) using a VK8 cutting tool ($\gamma = 10°$, $\alpha = \alpha_1 = 12°$, $\varphi = \varphi_1 = 45°$). Tool wear under normal conditions was compared with tool wear when a current of 5 amps (2-volt source) was passed through the cutting region in the direction of the thermoelectric e.m.f. and opposite to the thermoelectric e.m.f. while a stream of oxygen (15--20 liter/min) was directed into the cutting region. It was found that tool wear was decreased by a factor of 8--10 due to the improved thermoelectric cooling resulting from the oxide thermoelectric couples. Orig. art. has: 3 figures.

Card 1/1 SUB CODE: 13/ SUBM DATE: 23Feb65/ ORIG REF: 003/ OTH REF: 001

YAKUNIN, G.I.; UMAROV, E.A.

Using a natural thermocouple in studying the method of face turning. Izv. AN Uz. SSR. Ser. tekh. nauk 9 no. 1: 28-34 '65 (MIRA 19:1)

1. Tashkenskiy politekhnicheskiy institut. Submitted September 29, 1964.

YAKUNIN, G.I.; MIRBABAYEV, V.A.; ABRAMYAN, Ya.P.

Increasing the strength of hard-alloy cutting tools by leading-in electric current and oxygen gas to the cutting area. Izv. AN Uz. SSR. Ser. tekh. nauk 9 no. 6:49-51 '65 (MIRA 19:1)

1. Tashkentskiy politekhnicheskiy institut. Submitted February 23, 1965.

YAKUNIN, G.I.; YAKUBOV, F. Ya.

Efficient direction of the cooling duct in a lathe tool. Izv. AN Uz. SSR. Ser. tekh. nauk 9 no. 6:53-54 '65 (MIRA 19:1)

1. Tashkentskiy politekhnicheskiy institut. Submitted March 2, 1965.

YAKUNIN, [illegible]; [illegible], K.A.

Calibration of a natural thermocouple. Izv. AN Uz. SSR. Ser. tekh. nauk 9 no.2:54-57 '65. (MIRA 18:8)

YAKUNIN, G.I.; UMAROV, E.A.; YAKUBOV, F.Yn.

Investigating causes for the presence of stability peaks in the cutting speed-cutting tool stability relation. Izv. AN Uz. SSR. tekh. nauk 9 no.4:37-43 '65. (MIRA 18:10)

1. Tashkentskiy politekhnicheskiy institut.

L 4110-66 EWT(m)/EPF(c)/EWP(i)/T/EWP(t)/EWP(k)/EWP(b) IJP(c) JD/DJ

ACC NR: AP5025669 UR/0167/65/000/004/0037/0043

AUTHOR: Yakunin, G. I.; Umarov, E. A.; Yakubov, F. Ya.

TITLE: Investigation of the causes of toughness maxima as a function of the relation of cutting speed to the toughness of the cutting tool

SOURCE: AN UzSSR. Izvestiya. Seriya tekhnicheskikh nauk, no. 4, 1965, 37-43

TOPIC TAGS: cutting tool, toughness, metal film, metal oxidation, metal cutting, high speed metal cutting

ABSTRACT: It has been established that the toughness of the cutting tool is a nonmonotonic function of the cutting speed; as the cutting speed increases, up to a point, the toughness increases and reaches a maximum, beyond which it decreases. A theory accounting for this phenomenon is given by Avakov (Fizicheskiye osnovy teoriy stoykosti rezhushchikh instrumentov, Moscow, Mashgiz, 1960), who also points out that it is analogous to wear resistance during bearing contact and infers that both phenomena have common roots. During bearing contact, wear resistance sharply increases owing to the formation of oxide films on the friction surfaces; a similar phenomenon is assumed to occur during the cutting of metals by means of hard alloy-tipped cutting tools. Experiments with this cutting in different atmospheres (nitrogen, oxygen, air) were performed to determine the relationship between various cutting parameters and the nature (and the presence or absence) of the oxide films

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L 4110-66

ACC NR: AP5025669

3

forming during the cutting. It is established that the toughness maxima are definitely attributable to the presence of oxide films on the friction surfaces and that these maxima are conditioned by the strength of these films. A comparatively simple method of determining the toughness maxima is described: the experiments begin with a low cutting speed (say, 20 m/min); after the thermo-e.m.f. for this speed is recorded, a higher speed is applied, and so on. It is shown that the presence of several toughness maxima is due to the formation of different oxide films on the friction surfaces, such that each film is maximally strong at a different temperature. Further, by means of preliminary machining in regimes corresponding to its toughness maximum, the toughness of a cutting tool may be markedly enhanced. Orig. art. has: 4 figures

ASSOCIATION: Tashkentskiy politekhnicheskiy institut (Tashkent Polytechnic Institute)

SUBMITTED: 20Oct64 ENCL: 00 SUB CODE: IE, ME

NO REF SOV: 010 OTHER: 000

BVK

Card 2/2

YAKUNIN, I.; BELOGOLOVAYA, N.

A collective strives to win the title of enterprise of communist labor. Miss.ind. SSSR 34 no.1:4-6 '63. (MIRA 16:4)

1. Kolbasnyy zavod No.1 Moskovskogo ordena Lenina myasokombinata.
(Moscow--Meat industry) (Socialist competition)

SINYAGOVSKIY, I.N.; SOBOLEV, V.I.; YAKUNIN, I.A.

Improvement of the system of the development of the petroleum and gas pools of the coal-bearing stratum of the Korobkovo field. Trudy VNIING no.2:52-64 '63. (MIRA 17:5)

SINYAGOVSKIY, I.N.; KHARLANOV, V.A.; YAKUNIN, I.A.

The practicability of pattern flooding of the oil pools of the Upper Bashkir horizon of the Zhirnovsk and Bakhmet'yevskoye fields. Trudy VNIING no.2:48-51 '63.

(MIRA 17:5)

SINYAGOVSKIY, I.N.; SOBOLEV, V.I.; YAKUNIN, I.A.

Improving the development of the oil and gas pool of a coal-bearing series in the Korobkovskoye oil field. Trudy VNIING no.2:52-64 '63. (MIRA 17:10)

ZAGORUYKO, A.A.; SINYAGOVSKIY, I.N.; KHARLANOV, V.A.; YAKUNIN, I.A.

Further development of the oil and gas pool in reservoir B$_1$ of the Bakhmet'yevka oil field. Trudy VNIING no.2:65-70 '63. (MIRA 17:10)

OVANESOV, G.P.; YAKUPOV, I.A.; KAMALETDINOV, M.A.

Evaluating the prospects for finding gas and oil in the Zilair synclinorium. Geol. nefti i gaza 7 no.12:1-6 D '63. (MIRA 17:8)

1. Sovet narodnogo khozyaystva BSFSR, Starotamakskaya geologo-poiskovaya kontora tresta Bashkirgeologorazvedka.

L 8650-65 EWT(m)/EWP(b) MJW/JD

ACCESSION NR: AP4045653 S/0133/64/000/009/0795/0797

AUTHOR: Sladkoshteyev, V. T.; Shategin, O. A.; Kuritskiy, M. A.; Yakunin, I. A.; Yeremenko, A. S.

TITLE: Technology of horizontal continuous casting of steel

SOURCE: Stal', no. 9, 1964, 795-797

TOPIC TAGS: horizontal continuous steel casting, continuous steel casting, continuous stainless steel casting, heat resistant steel casting, heat resistant alloy casting, cast consumable electrode

ABSTRACT: A horizontal continuous casting unit has been in operation in the pilot plant of the Ukrainian Scientific Research Institute of Metals. Molten metal is poured into a receiver from which it flows through a refractory conduit into a horizontal mold 500—700 mm long which moves forwards and backwards with the receiver and conduit. Seventy-three heats of structural carbon steel (15—35), structural alloy steel (20KhNA, 20Kh2N4), stainless steel (1Kh18N9 and 1Kh18N9T), ball-bearing steel (ShKh15), heat-resistant steel (E1787), and heat-resistant alloy (E1437B) melted in an arc furnace were cast into round

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ACCESSION NR: AP4045653

ingots 80—90 and 120 mm in diameter. The ingot surface was found to be clean and free of slag inclusions, films, and scabs, but numerous seams were formed with each stroke of the mold. Therefore, the method cannot be recommended for casting ingots which have to be rolled. However, the ingots can be successfully used as consumable electrodes for electroslag and vacuum-arc melting. The 1Kh18N9T and 8hKh15 steel ingots can be used without any conditioning, the E1437B ingots need sand blasting. Orig. art. has: 3 figures.

ASSOCIATION: Ukrainskiy n.-i. institut metallov (Ukrainian Scientific Research Institute of Metals)

SUBMITTED: 00 ENCL: 00

SUB CODE: MM NO REF SOV: 000 OTHER: 000

Card 2/2

SLADKOSHTEYEV, V.T.; SHATAGIN, O.A.; KURITSKIY, M.F.; YAKUNIN, I.A.; YEREMENKO, A.S.

Technology of horizontal continuous pouring of steel. Stal' 24 no.9: 795-797 S '64. (MIRA 17:10)

1. Ukrainskiy nauchno-issledovatel'skiy institut metallov.

YAKUNIN, I.D.

Possibility of determining the porosity of reservoir rocks from the results of hydrodynamic investigations of wells. Nauchn-tekh. sbor. po dob. nefti no.21:51-53 '63. (MIRA 17:5)

1. Volgogradskiy nauchno-issledovatel'skiy institut neftyanoy i gazovoy promyshlennosti.

MININ, A.N.; YAKUNIN, I.I.

Using gelatinizing substances in making boards of wood shavings.
Der.prom. 8 no.4:29 Ap '59. (MIRA 12:6)
(Woodworking industries)

YAKUNIN, I.I.

On V.A. Charushin's book "How to guard oneself and animals against helminthic diseases." Veterinariia 36 no.3:87 Mr '59.

1. Predsedatel' kolkhoza im. Kirova, Stavropol'skogo kraya.
(Worms, Intestinal and parasitic)

YAKUNIN, I.I. [deceased]

Channel deformations of the Polomat' River and their relation to the hydrologic regime and the stability of the sediment composing the riverbed. Trudy GGI no.116:82-105 '64.
(MIRA 17:12)

KONDRAT'YEV, Nikolay Yevgen'yevich, kand.tekhn.nauk; LYAPIN, Aleksey Nikolayevich, kand.tekhn.nauk; POPOV, Igor' Vladimirovich, kand.geogr.nauk; PIN'KOVSKIY, Stepan Iosifovich, mladshiy nauchnyy sotrudnik; FEDOROV, Nikolay Nikolayevich, kand.tekhn. nauk; YAKUNIN, Ivan Ivanovich, kand.tekhn.nauk; GROSMAN, R.V., red.; VLADIMIROV, O.G., tekhn.red.

[Channel process] Ruslovoi protsess. Pod red. N.E.Kondrat'eva. Leningrad, Gidrometeor.izd-vo, 1959. 370 p. (MIRA 13:1)
(Hydrology)

YAKUNIN, I.I.

Investigating the bed of the Polomet' River and estimating the rise of water above the mean low level. Trudy GGI no.69:131-137 '59. (MIRA 12:6)
(Polomet' River--Hydrology)

YAKUNIN, I.I.

Relation between channel deformations, the regime of streamflow, and ground stability. Trudy GGI no.88:91-108 '61. (MIRA 15:2)

(Polomet' River--Hydrology)

YAKUNIN, I.I.

Application of hydromorphological relationships in estimating the channel transformations of the Irtysh River resulting from stream-flow regulation. Trudy GGI no.88:4-58 '61.
(Irtysh River--Hydrology)

ALEKSANDROVICH, G. L., dotsent; YAKUNIN, K. G.

Rare anomaly of the urogenital system (Agenesia penis). Urologiia no.6:60-62 '61. (MIRA 15:4)

1. Iz kliniki fakul'tetskoy khirurgii Khabarovskogo meditsinskogo instituta.

(PENIS—ABNORMITIES AND DEFORMITIES)

L 23481-65 EWT(d)/EWT(m)/EWP(w)/EWA(d) EM/RM

ACCESSION NR: AR5000742 S/0277/64/000/009/0037/0037

SOURCE: Ref. zh. Mashinostroitel'nyye materialy, konstruktsii i raschet detaley mashin. Gidroprivod. Otd. vyp., Abs. 9.48.233

AUTHOR: Yakunin, L. S.

TITLE: Application of V. G. Galerkin's variational method to equations describing the consistency of deformations of an axisymmetrically loaded elastic cylinder

CITED SOURCE: Tr. Gor'kovsk. in-ta inzh. vodn. transp., vyp. 55, 1964, 3-14

TOPIC TAGS: elastic cylinder, axisymmetrically loaded cylinder, deformation consistency equation, Galerkin variational method

TRANSLATION: A problem in the theory of elasticity is solved for cylinders in relation to an axisymmetric case. The author employs four stress functions, which are analyzed in the form of series with indeterminate coefficients. Systems for defining these coefficients are derived with the aid of V. G. Galerkin's method. An approximate variant is also presented for a solution in which only two stress functions are found. In that case, end plane conditions are satisfied only in the sense of St. Venant's principle. P. Perlin.

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